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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/696,236

10/28/2003

Thomas Lloyd Credelle

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05/23/2007

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EXAMINER

MOON, SEOKYUN

ART UNIT

PAPER NUMBER

2629

MAIL DATE

DELIVERY MODE

05/23/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/696,236

Applicant(s)

CREDELLE, THOMAS LLOYD

Examiner

Seokyun Moon

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2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>03/16/2007</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendments***

#### Specification

The Applicants have amended the specification of the subject Application by adding pars. [012.1], [027.1], [027.2], and [027.3] and by rewriting par. [027] based on the contents disclosed in US 2003/0128179, which is incorporated by reference in the subject Application.

The Amendments to the specification have been accepted.

#### Drawings

The Applicants have also amended the drawings of the subject Application by adding figs. 7a and 7b that are previously disclosed in US 2003/0128179, which is incorporated by reference in the subject Application.

The Amendments to the drawings have been accepted.

### ***Response to Arguments***

#### 35 U.S.C. 112 1<sup>st</sup> Rejections

The Applicants' arguments regarding the rejections of claims 24, 25, and 26 have been fully considered but they are not persuasive.

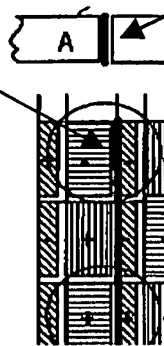
The Applicants stated that the amended claims 24, 25, and 26 would overcome 112 1<sup>st</sup> rejections made in the previous rejection mailed on 10/17/2006.

Examiner respectfully disagrees.

The amended claims discloses "... *any parasitic effects placed upon any of the subpixels introduced by said signals are placed substantially upon subpixels disposed in columns*

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*positioned at a boundary between said driver chips*". However, according to fig. 3 of the subject Application, the subpixels affected by the parasitic effects are disposed in columns positioned at a boundary between a display area/section driven by one of the driver chips and another display area/section driven by another driver chip. Examiner [drawing 1 provided below, which is equivalent to fig. 3 of the subject Application] submits that a boundary between the driver chips is different from a boundary between a display area/section and another display area/section.

Drawing 1

Appropriate correction is required.

35 U.S.C. 103(a) Rejections regarding claims 1, 6, 8, 13, 15, and 20

The Applicants' arguments regarding the rejections of claims 1, 6, 8, 13, 15, and 20 have been fully considered and the following remark has been made.

According to the Applicants' arguments [Remarks: page 15 lines 4-7 and page 18 lines 6-17], the Applicants stated that violating the rule "*across any given row, each successive same-colored subpixel has an opposite polarity to its neighbor*" is the cause of the image degradation. Examiner respectfully disagrees.

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A	B											
G (+) B (-)	G (-)	R (+)	G (-)	B (+)	G (-)	R (+)	G (-)	B (+)	G (-)	R (+)		
G (-) R (+)	G (-)	B (+)	G (-)	R (+)	G (-)	B (+)	G (-)	R (+)	G (-)	B (+)		
G (-) B (+)	G (+)	R (-)	G (+)	B (-)	G (+)	R (-)	G (+)	B (-)	G (+)	R (-)		
G (+) R (-)	G (+)	B (-)	G (+)	R (-)	G (+)	B (-)	G (+)	R (-)	G (+)	B (-)		

Drawing 2

According to drawing 2, which is a reproduction of fig. 3 of the subject Application, the subpixels having a color of green, blue, and red included in a first row are driven with data signals having a same polarity. Since the arrangement of the polarities of the subpixels shown on fig. 3 of the subject Application violates the disclosed rule, *"across any given row, each successive same-colored subpixel has an opposite polarity to its neighbor"*, the invention disclosed in the specification of the Application does not teach the claim limitation, *"... any image degradation introduced by said signals is localized on said column of dark colored subpixels."* if the violating the rule is considered as the cause of the image degradation. Furthermore, Examiner respectfully submits that the specification of the subject Application does not indicate or define clearly the cause of the image degradation.

For the foregoing reasons, claims are rejected under 35 U.S.C. 112 in this correspondence.

Examiner respectfully requests the Applicants to explain or define more specifically regarding how the image degradation is occurred during the driving process of the display.

35 U.S.C. 103(a) Rejections regarding dependent claims

The Applicants' arguments regarding the rejections of the dependent claims are now moot in view of the new ground rejection (35 U.S.C. 112).

### ***Specification***

1. The specification of the subject Application is objected to because it fails to explain sufficiently the subject matter which the Applicants regard as invention.

In the specification, the Applicants state "*vertical image degradation is eliminated since same color pixels alternate in polarity*" in fig. 3 [par. (020) line 2].

However, as shown on drawing 2, which is equivalent to fig. 3 of the subject Application, each pair of the green subpixels included in a column have a same polarity. Therefore, the figure does not show the same color pixels being alternated in polarity.

Appropriate correction/explanation is required.

Also, the specification discloses "*the phasing is designed so as to localize the same polarity occurrence on the circled blue subpixels 302*" [par. (022) lines 2-5]. However, as shown in fig. 3, each of the circled portions includes two subpixels comprising of a blue subpixel and a red/green subpixel. If there is any image degradation occurred on one of the blue subpixels, then it is expected to observe the image degradation on one of the red/green subpixels included in a circled portion included the corresponding blue subpixel. If the image degradation is only occurred on the blue subpixels, the Examiner respectfully requests the Applicants to provide further explanation why the image degradation is introduced on the blue subpixels only.

For the same reasons, par. (024) and par. (028) of the specification are objected.

Appropriate correction/explanation is required.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 1-5, 8-12, 15-19, 24-26, and 27-29** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As to **claims 1, 8, 15, and 27** the claims disclose “*any image degradation introduced by said signals is localized on said column of dark colored subpixels*”.

However, Examiner respectfully submits that the image degradation caused by the aging of liquid crystals, i.e. changes on the tilt-angles of the liquid crystals, which is a result of receiving data voltages corresponding to image signals for a long period are introduced on subpixels randomly, rather than being introduced on the column of dark colored subpixels, only. Thus, the specification of the subject Application does not teach localizing any image degradation on the column of dark colored subpixels.

Appropriate correction is required.

As to **claims 24-26 and 29**, the claim discloses “... *any parasitic effects placed upon any of the subpixels introduced by said signals are placed substantially upon subpixels disposed in columns positioned at a boundary between said driver chips*”. However, according to fig. 3 of the subject Application, the subpixels affected by the parasitic effects are disposed in columns positioned at a boundary between a display area/section driven by one of the driver chips and another display area/section driven by another driver chip. Examiner submits that a boundary

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between the driver chips is different from a boundary between a display area/section and another display area/section.

Appropriate correction is required.

As to **claims 2-5, 9-12, 16-19, and 28**, the claims are rejected as being dependent upon rejected base claims.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 1-29** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to **claims 1, 6, 8, 13, 15, 20, and 27**, the claims disclose "*image degradation*" and "*parasitic effects*".

However, Examiner respectfully submits that the specification of the subject Application does not explain/define clearly how the image degradation or parasitic effects are occurred.

Appropriate correction/explanation is required.

As to **claims 2-5, 7, 9-12, 14, 16-19, 21-26, 28-29**, the claims are rejected as being dependent upon rejected base claims.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is (571) 272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

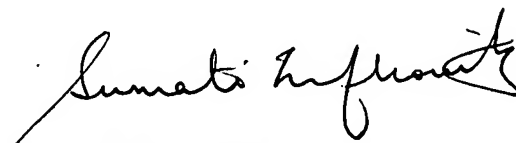


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (572) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 16, 2007

- s.m.



SUMATI LEFKOWITZ  
SUPERVISORY PATENT EXAMINER